Rejection Under 35 U.S.C. § 112

Claims 16-37 stand rejected under 35 U.S.C. § 112, first paragraph, as being based on an non-enabling disclosure. The Examiner contends that the disclosure is insufficient to describe to a person having ordinary skill in the art how to make an "incompressible substrate". According to the Examiner:

> ... on page 14 of the instant specification Applicants disclose or perhaps allude to an "incompressible substrate". It appears that such a substrate is composed of... a woven or non-woven fabric and thermosetting e.g. epoxy, resin ,[sic] based on inorganic material or aromatic polyamide and this composite is cured by heating. According to Applicants' specification on page 17 one can use non-woven fabric of an aromatic fiber wherein a thermosetting epoxy resin is impregnated therein. According to Applicants' disclosure on page 13 of the specification the incompressible substrate has more strength than a prepreg sheet and also is less deformed .[sic]than the sheet. Even in Applicants' exemplary embodiments Applicants do not provide enough detail of the fraction of thermosetting resin (Cf page 31), the degree of tacticity of the thermosetting material at a given temperature, the compressive strength, the amount and sizes of the "organic or inorganic material powder or fiber"[sic, period (.)] Cf page 37[sic, period(.)] They do not disclose the composition of the "[sic] fiber aggregate " (Page 37) nor of the non-woven fabric or woven fabric (Cf. also page 37)[sic, period(.)] Applicants merely state that the composite can be a non-woven fabric of aromatic polyimide fiber and thermosetting resin (Cf. pg 37). Applicants have not disclosed sufficient parameters which would enable a POSITA [person having ordinary skill in the art] to make and use the claimed invention ....

The test of enablement is whether one skilled in the art could make or use the claimed invention from the disclosures in the specification coupled with information known in the art without undue experimentation. *United States V. Telectronics, Inc.*, 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988), *cert. denied*, 490 U.S. 1046 (1989); *In re Stephens*, 529 F.2d 1343, 1345, 188 USPQ 659, 661 (CCPA 1976). Determining enablement is a question of law based on underlying factual findings. *In re Vaeck*, 947 F.2d 488, 495, 20 USPQ2d 1438, 1444 (Fed. Cir. 1991); *Atlas Powder Co. v. E.I. Du Pont De Nemours & Co.*, 750 F.2d 1569,

1573, 224 USPQ 409, 411 (Fed. Cir. 1984). In determining whether a disclosure would require undue experimentation to make the claimed subject matter, the Examiner must consider the quantity of experimentation necessary, the amount of direction or guidance presented, the presence or absence of working examples, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, and the breadth of the claims. *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404, (Fed. Cir. 1988), citing with approval *Ex parte Forman*, 230 USPQ 526, 547 (Bd. Pat. App. & Intf. 1986). The burden is on the Examiner to establish a reasonable basis to question the adequacy of Applicant's disclosure. *In re Marzocchi*, 439 F.2d 220, 223-224, 169 USPQ 367, 370 (CCPA 1971).

The Examiner has not established that a person having ordinary skill in the art would not know how to or be able to make an "incompressible substrate" without undue experimentation from Applicant's disclosure. The disclosure at page 13, lines 15-20 of the specification defines a substrate having "incompressibility" as being a substrate that is "higher in strength and is less deformed due to pressures during resin curing of the bonding layer in the process of manufacturing a circuit board." On page 14, lines 9-18 of the specification, the incompressible substrate is further defined as being a "composite material of woven or non-woven fabric and thermosetting resin, based on inorganic material or aromatic polyimide." An example such a substrate is a composite material having a non-woven fabric of an aromatic polyamide fiber impregnated with a thermosetting epoxy (page 17, lines 13-17). From this disclosure, a person having ordinary skill in the art reading this disclosure would have an understanding of the meaning of an incompressible substrate as set forth in the claims and would be able to make the substrate. The Examiner has not provided any cogent scientific reasoning as to why the

disclosure of the degree of tacticity of the thermosetting resin, compressive strength, and the amount and sizes of the organic or inorganic fiber are necessary for such a person to make the substrate. The Examiner has also not provided any cogent scientific reasoning as to why the composition of the fiber aggregate or the woven or non-woven fabric is needed for such a person to make the substrate without undue experimentation.

For all of the foregoing reasons, the Examiner has not established a *prima facie* case of non-enablement to support the rejection under 35 U.S.C. § 112, first paragraph. Accordingly, it is respectfully requested that the rejection of claims 16-37 be reconsidered and withdrawn.

Double Patenting Rejection

Claims 16-37 stand rejected as being unpatentable on the ground of the judicially created doctrine of obviousness-type double patenting over claims 16-29 of U.S. Patent No. 6,528,773 B2 (hereinafter the '773 patent). This rejection is respectfully traversed.

The claims in the present application require manufacturing a substrate having incompressibility. None of the claims 16-29 in the '773 patent claim require this limitation. While claims of the '773 patent recite a "prepreg sheet," the specification of the present application states that a substrate having incompressibility is higher in strength than a prepreg sheet (page 13, lines 15-20). So the claimed subject matter in the '773 patent is not directed to the same substrate as required in the claims of the present application. Moreover, the present invention requires the formation of a bonding layers on each side of the incompressible substrate before laminating the metallic foils. This feature is not claimed in the '773 patent. For all of the foregoing reasons the, claims of the present invention would not have been an obvious variation of the claimed subject matter in claims 16-29 of the '773 patent. Accordingly, it is respectfully

requested that the rejection of claims 16-37 on the ground of obviousness-type double patenting be reconsidered and withdrawn.

CONCLUSION

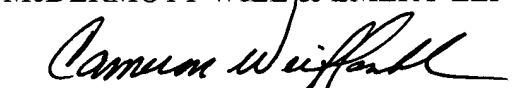
For the foregoing reasons, it is submitted that the claims 16-37 are patentable over the teachings of the prior art relied upon by the Examiner. Accordingly, favorable reconsideration of the claims is requested in light of the preceding amendments and remarks. Allowance of the claims is courteously solicited.

If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



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